

COMPUTER ILLUSTRATION AND GRAPHICS

Computer Illustration and Graphics introduces students to the computer's use in visual communication. The focus of the course is on basic computer terminology and use, mastering fundamental skills, and developing efficient working styles. These skills are then developed by creating work with imaging, drawing, interactive, and page layout software. The course includes organized learning experiences that incorporate a variety of visual art techniques as they relate to the design and execution of layouts and illustrations for advertising, displays, promotional materials, and instructional manuals. Instruction also covers advertising theory and preparation of copy, lettering, posters, produce vector illustrations, graphics and logos, and artwork in addition to incorporation of photographic images. Communication skills will be emphasized through the study of effective methods used to design products that impart information and ideas. Advanced instruction might also include experiences in silk screening and air brush techniques as well as activities in designing product packaging and commercial displays or exhibits.

- DOE Code: 4516
- Recommended Grade Level: Grade 11-12
- Recommended Prerequisites: IT Essentials or Introduction to Communications
- Credits: 1 credit per semester, maximum of 6 credits
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- This course is aligned with postsecondary courses for Dual Credit:
 - Ivy Tech
 - VISC 115 Introduction to Computer Graphics
 - Vincennes University
 - DESN 120 Computer Illustration

Dual Credit

This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

Application of Content and Multiple Hour Offerings

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

Career and Technical Student Organizations (CTSOs)

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in Business Professional of America, DECA, or Future Business Leaders of America. the CTSO for this area.

Content Standards

Domain – Visual Art

Core Standard 1 Students integrate visual arts techniques, as well as, elements and principles of design to develop graphic art.

Standards

- CIG-1.1 Identify and apply effective design solutions based on content
- CIG-1.2 Discuss the importance of proper research, brainstorming, and thumbnails
- CIG-1.3 Evaluate the aesthetics of graphic design
- CIG-1.4 Given the target audience, the student will be able to show the importance of assessment in the advertising media industry
- CIG-1.5 Explain the elements of visual design unique to the commercial art and graphic design
- CIG-1.6 List and describe the components of a design
- CIG-1.7 Apply brainstorming techniques to develop many possible solutions
- CIG-1.8 Explain the human, social and environmental issues that affect the design solutions
- CIG-1.9 Analyze ethical issues in choosing design solutions
- CIG-1.10 Analyze the effective use of symbols, elements, principles, and media using appropriate terminology
- CIG-1.11 Evaluate the effectiveness of elements and principles in other design solutions and use this evaluation toward personal work

Domain – Computer basics

Core Standard 2 Students perform basic computer operation for use in computer graphic software.

Standards

- CIG-2.1 Navigate within the computer's operating environment
- CIG-2.2 Utilize the hardware components of the computer effectively
- CIG-2.3 Begin, define, and solve challenging visual problems, demonstrating skill and in-depth understanding of media and processes
- CIG-2.4 Integrate data from various software applications
- CIG-2.5 Access information using electronic sources
- CIG-2.6 Demonstrate basic knowledge of the Internet
- CIG-2.7 Distinguish among the various forms of intellectual property rights

Domain – Project Management

Core Standard 3 Students apply and adapt project management methodology to meet customer needs.

Standards

- CIG-3.1 Apply project management principles
- CIG-3.2 Evaluate project management methodologies
- CIG-3.3 Demonstrate monitoring of a project's progress
- CIG-3.4 Gather data and identify client requirements and scope of work
- CIG-3.5 Develop project concept proposal plan

Domain – Digital Images

Core Standard 4 Students utilize digital image equipment and editing software to use in graphic design.

Standards

- CIG-4.1 Identify standard hardware platform components and configurations
- CIG-4.2 Identify memory and storage requirements
- CIG-4.3 Identify computer architecture requirements for digital imaging
- CIG-4.4 Explain how a digital image is generated, archived, and managed
- CIG-4.5 Compare performance of different types of image acquisition hardware
- CIG-4.6 Operate digital imaging equipment and move images from equipment to computer software

- CIG-4.7 Apply image techniques that enhance the quality of an image or graphic

Domain – Desktop Publishing

Core Standard 5 Students create graphic products using desktop publishing software to understand publishing basics.

Standards

- CIG-5.1 Evaluate the purposes, functions and features of desktop publishing software
- CIG-5.2 Demonstrate desktop publishing software skills
- CIG-5.3 Import, manipulate and integrate data and graphic images
- CIG-5.4 Apply principles and techniques of publication design and layout
- CIG-5.5 Apply knowledge of typography to enhance publications using different fonts, styles, attributes, justification, etc

Domain – Design and Layout

Core Standard 6 Students create layouts using design software to demonstrate knowledge of design.

Standards

- CIG-6.1 Integrate human factors and user interface in visual design
- CIG-6.2 Evaluate visual appeal of design
- CIG-6.3 Demonstrate knowledge of the principles and elements of design and their relationship to each other
- CIG-6.4 Distinguish the differences in using a template verse a manual layout techniques
- CIG-6.5 Apply color theory for emotional impact
- CIG-6.6 Demonstrate knowledge of applying principles of basic composition
- CIG-6.7 Demonstrate basic technical art skills in both traditional and electronic forms
- CIG-6.8 Assess how the technical limitations of the medium affect content and style

Domain – 2D and 3D Animation

Core Standard 7 Students adapt and apply 2D and 3D skills to create animations.

Standards

- CIG-6.1 Create 2D and 3D computer graphics
- CIG-6.2 Evaluate visual appeal of design in computer graphics
- CIG-6.3 Alter images using an image manipulation program
- CIG-6.4 Integrate various special effects to images, graphics, typography, and photos
- CIG-6.5 Utilize the basic principles of 2-D animation
- CIG-6.6 Create real-time Virtual Reality Mark-up Language (VRML) 3-D animation

- CIG-6.7 Explain how to convert objects from two-dimensional to three-dimensional
- CIG-6.8 Compare/contrast flat shading, curved shading, ray tracing, and radiosity methods
- CIG-6.9 Follow basic animation principles
- CIG-6.10 Demonstrate knowledge of virtual environment